

Case Studies for Cost Reduction and Value Innovation of Construction Projects Using Advanced Value Metrics

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Abstract

VE has recently been applied in Korea to many industrial areas to devise enhancement of values. VE is positively introduced and activated in the construction industry, for effective design and construction work. As a part of the effort to improve object performance and save costs, VE, under the purpose of increasing customer satisfaction and raising values, is compulsorily executed at the design stage of construction and gives a tangible outcome.

Nevertheless, when executing VE for large construction currently in process, too much focus on saving expenses may cause lowering of performance, so alternative plans are suggested. This can be caused by several reasons such as ignorance of performance when executing VE, different opinions of stakeholder, non-execution of VE workshops, inclination toward saving expenses focusing on accomplishment based evaluation, which are the main reasons for lowering satisfaction from customers in the end.

Such problems are caused by the lack of effective performance evaluation for increasing the value of the project in general, making it hard for various stakeholder to consent and agree on a decision till the actual implementation. In order to settle this issue, the team leader of VE should execute VE on the basis of clear performance evaluation so that VE team members will cooperate and agree on an opinion. For this, an accurate performance standards and method are necessary.

This presentation will introduce current status of VE at construction areas in Korea, by considering the importance of performance evaluation for execution of efficient design VE in public construction works, also suggesting a feasible advanced value metrics by showing how to quantify performance. Advanced value metrics method will suggest a detailed performance index. Therefore stakeholder such as order makers or VE team members can have advantages when adjusting or making the agreement of opinions.

Advanced value metrics in various types of construction projects such as port, highway, railways, urban development and school buildings for design-buildings and private finance initiative projects has been effectively adopted. We will share our experiences for some VE studies applied advanced value metrics. Case of actual execution that aim at value innovation are introduced and its effectiveness studied.

It is stated that the proposed advanced value matrix was very useful for better communication and consensus with decision makers and the VE team members in case of huge construction projects. Also, We introduce web-based VE support system which is currently being developed by our researchers to reflect advanced value metrics in conducting VE workshop.